QP
1
W533

JOURNAL OF CELLULAR AND COMPARATIVE PHYSIOLOGY

BOARD OF EDITORS

Detlev W. Bronk, Managing Editor
The Johns Hopkins University

W. R. Amberson
University of Maryland

E. Newton Harvey
Princeton University

L. Irving
Arctic Health Research Center

M. H. Jacobs
University of Pennsylvania

R. S. Lillie
The University of Chicago

E. K. Marshall, Jr.
The Johns Hopkins University

G. H. Parker
Harvard University

A. C. Redfield
Harvard University

H. W. Smith
New York University

VOLUME 37

FEBRUARY, APRIL, JUNE, 1951

PUBLISHED BY

THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGY

PHILADELPHIA, PA.

CONTENTS

No. 1 FEBRUARY 1951

F. H. Johnson, E. A. Flagler, R. Simpson and K. McGeer. The inhibition of bacterial luminescence by a homologous series of carbamates. Five figures 1

Frank H. Johnson and Elizabeth A. Flagler. Activity of narcotized amphibian larvae under hydrostatic pressure. Two figures 15

Jean Botts and Manuel F. Morales. The elastic mechanism and hydrogen bonding in actomyosin threads. Eleven figures 27

Aser Rothstein, Rebecca Meier and Leon Hurwitz. The relationship of the cell surface to metabolism. V. The role of uranium-complexing loci of yeast in metabolism. Twelve figures 57

William D. McElroy and E. Newton Harvey. Differences among species in the response of firefly extracts to adenosine triphosphate 83

Julian M. Tobias. Qualitative observations on visible changes in single frog, squid and other axones subjected to electrical polarization. Implications for excitation and conduction. One figure 91

Manuel F. Morales and Louis P. Cecchini. Some studies on the infrared absorption of the contractile system of skeletal muscle. Nineteen figures 107

Rhoda Grant, M. I. Grossman, K. J. Wang and A. C. Ivy. The cytologic action of some gastro-intestinal secretions and enzymes on epithelial cells of the gastric and duodenal mucosa. Twenty-two figures 137

M. H. Ross and J. O. Ely. Radiation effects on liver glycogen in the rat. Four figures 163

No. 2 APRIL 1951

Etienne Lasfargues and Jennie Di Fine. Influence of adrenal hormones on the distribution and concentration of alkaline phosphatase in chick embryo cells cultviated in vitro. Eight figures 175

H. T. Epstein and Jerome J. Wolken. A theoretical model for phosphorus^{32} transport during early embryonic growth. Five figures 195

R. F. Kimball and Nenita Gaither. The influence of light upon the action of ultraviolet on Paramecium aurelia. Eight figures 211

Eugenia Tarver and Manuel F. Morales. The reaction between actomyosin and various nucleotides and phosphates, as followed by ultraviolet absorption. Five figures 235

Jean Botts, Frank H. Johnson and Manuel F. Morales. The behavior of free-weighted actomyosin threads under pressure. Two figures 247

Aurin M. Chase, William S. Costen and Eugene R. Nobles. Studies on cell enzyme systems. V. The effect of temperature on the Michaelis constant for milk aldehyde dehydrogenase. One figure 255

Hubert Frings and Irma Senkovits. Destruction of the pinnae of white mice by high intensity air-borne sound. Six figures 267

Werner K. Noell. The effect of iodoacetate on the vertebrate retina. Ten figures 283

Gerald R. Seaman and Robert K. Houlihan. Enzyme systems in Tetrahymena geleii S. II. Acetylcholinesterase activity. Its relation to motility of the organism and to coordinated ciliary action in general. Two figures 309

Erich Hirschberg and Harold P. Rusch. Effect of 2,4-dinitrophenol on the differentiation of the slime mold Dictyostelium discoideum 323

Leon H. Schneyer. The effect of low concentrations of calcium and phosphate salts on bacterial luminescence intensity. Three figures 337

B. A. Westfall. Seasonal variation of Q_{O_2} of rat brain tissue 351

No. 3 JUNE 1951

Isaac Asimov, Henry M. Lemon, Rose M. Reguera, M. Moira Davison and Burnham S. Walker. Ratio of desoxypentosenucleic acid to potassium in normal and malignant human tissue. Two figures 355

Robert Ballentine and Dorothy G. Stephens. The biosynthesis of stable cobalto-proteins by plants. Seven figures 369

J. Wendell Burger and Stanley E. Bradley. The general form of circulation in the dogfish, Squalus acanthias. Five figures 389

JACOB J. BLUM, BETTY PODOLSKY AND JOHN O. HUTCHENS. Heat production in Chilomonas. Three figures 403

BETTY DANES AND P. J. LEINFELDER. Cytological and respiratory effects of cyanide on tissue cultures. Ten figures 427

F. H. MCCUTCHEON. The mammalian breathing mechanism. Nine figures ... 447

MANUEL F. MORALES, KOLOMAN LAKI, JOHN GERGELY AND LOUIS P. CECCHINI. Some further infrared absorption studies on the proteins of muscle. Five figures 477

GILBERT D. POTTER. The action of temperature, cyanide and azide on the cardiac and respiratory rhythms of Gammarus confervicolus (Stimpson). Three figures 487

Comments and Communications:

HUGH DAVSON AND P. A. MATCHETT. The non-specific narcotic action of DFP. One figure 501

ROBERT DAY ALLEN. The use of Spisula solidissima eggs in cell research. 504

JAMES W. GREEN AND JOSEPH F. HOFFMAN. Erythrocyte volume and urea in elasmobranchs. Two figures 506